Complete Summary

GUIDELINE TITLE

Infection control during GI endoscopy.

BIBLIOGRAPHIC SOURCE(S)

ASGE Standards of Practice Committee, Banerjee S, Shen B, Nelson DB, Lichtenstein DR, Baron TH, Anderson MA, Dominitz JA, Gan SI, Harrison ME, Ikenberry SO, Jagannath SB, Fanelli RD, Lee K, van Guilder T, Stewart LE. Infection control during GI endoscopy. Gastrointest Endosc 2008 May;67(6):781-90. [109 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Endoscopy-related infections

GUIDELINE CATEGORY

Management
Prevention
Treatment

CLINICAL SPECIALTY

Gastroenterology
Infectious Diseases
Internal Medicine

INTENDED USERS

Allied Health Personnel
Nurses
Physicians

GUIDELINE OBJECTIVE(S)

- To provide information that may assist endoscopists in providing care to patients
- To disseminate information and promote understanding, which leads to the prevention of infection as a result of a gastrointestinal endoscopy

TARGET POPULATION

Patients undergoing an endoscopic examination

INTERVENTIONS AND PRACTICES CONSIDERED

1. Reprocessing of endoscopies
    - Manual cleaning
    - High-level disinfection (HLD)
    - Sterilization
    - Proper rinsing, drying and storage
2. Antibiotic prophylaxis for gastrointestinal (GI) endoscopic procedures
3. General infection control procedures (e.g., single use of drug vials and use of gloves by health care workers)
4. Use of precautions to avoid infection transmission
    - Standard precautions
    - Precautions at the institutional level
    - Precautions in the endoscopy suite
    - Use of personal protective equipment
5. Postexposure prophylaxis

MAJOR OUTCOMES CONSIDERED

- Incidence of infections (patient to patient; by endoscopy, endogenous) after endoscopic procedures
- Effectiveness in preventing infections as a result of a gastrointestinal (GI) endoscopy

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A search of the medical literature was performed by using PubMed, supplemented by accessing the "related articles" feature of PubMed. Additional references were obtained from the bibliographies of the identified articles and from recommendations of expert consultants. When little or no data exist from well-designed prospective trials, emphasis is given to results from large series and reports from recognized experts.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

See "Rating Scheme for the Strength of the Recommendations"

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Guidelines for appropriate use of endoscopy are based on critical review of the available data and expert consensus.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grade of Recommendation	Clarity of Benefit	Methodologic Strength Supporting Evidence	Implications
1A	Clear	Randomized trials without important limitations	Strong recommendation; can be applied to most clinical settings
1B	Clear	Randomized trials with important limitations (inconsistent results, nonfatal methodologic flaws)	Strong recommendation; likely to apply to most practice settings
1C+	Clear	Overwhelming evidence from observational studies	Strong recommendation; can apply to most practice settings in most situations
1C	Clear	Observational studies	Intermediate-strength recommendation; may change when stronger evidence is available
2A	Unclear	Randomized trials without important limitations	Intermediate-strength recommendation; best action may differ depending on circumstances or patients' or societal values
2B	Unclear	Randomized trials with important limitations (inconsistent results, nonfatal methodologic flaws)	Weak recommendation; alternative approaches may be better under some circumstances

Grade of Recommendation	Clarity of Benefit	Methodologic Strength Supporting Evidence	Implications
2C	Unclear	Observational studies	Very weak recommendation; alternative approaches likely to be better under some circumstances
3	Unclear	Expert opinion only	Weak recommendation; likely to change as data become available

*Adapted from Guyatt G, Sinclair J, Cook D, et al. Moving from evidence to action. Grading recommendations: a qualitative approach. In: Guyatt G, Rennie D, editors. Users' guides to the medical literature. Chicago: AMA Press; 2002. p. 599-608.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This document was reviewed and approved by the Governing Board of the American Society for Gastrointestinal Endoscopy. This document was reviewed and endorsed by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Guidelines Committee and Board of Governors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the grades of recommendation (1A to 3) are provided at the end of the "Major Recommendations."

Reprocessing of Endoscopes

Definitions

Cleaning: This is defined as the physical removal of organic material and/or soil, usually by using water with detergents. This process is designed to remove microorganisms rather than to kill them.

Disinfection: Disinfection accomplishes the killing of most microorganisms and is commonly performed by using liquid chemical germicides (LCG). Three levels of disinfection are achievable: high, intermediate, and low, depending on the amount and kind of microbial killing involved. High level disinfection (HLD) destroys vegetative microorganisms, mycobacteria, fungi, small or nonlipid viruses, medium or lipid viruses, but not necessarily large numbers of bacterial spores. Chemical germicides registered as "sterilants" may be used for sterilization or for HLD, depending on such factors as dilution, contact time, and frequency of reuse. The specifics of such factors may vary with each product and are included on approved labeling.

Sterilization: Sterilization is the act of killing all microbial life, including the elimination of bacterial spores. It is most commonly achieved with heat or ethylene oxide gas. The Spaulding classification system allows categorization of medical devices based on the risk of infection involved with use. The categories of medical devices and their associated level of disinfection are as follows:

- Critical use items: Items that enter sterile tissue or vascular spaces and hence carry significant risk for infection if contaminated. These items include needles, surgical instruments, biopsy forceps, and urinary catheters. Processing for reuse of these items requires sterilization. In some instances, gastrointestinal (GI) endoscopes are sterilized when intended for use in sterile environments.
- Semicritical use items: Items that come in contact with mucous membranes and do not ordinarily penetrate sterile tissue. These include thermometers, endoscopes, and anesthesia equipment. Processing for reuse of these items requires at least HLD.
- Noncritical items: Items that do not ordinarily touch the patient or touch only intact skin, such as stethoscopes or patient carts. These items may be cleaned by low-level disinfection.

Summary

- Transmission of infection as a result of GI endoscopes is extremely rare, and recently reported cases are invariably attributable to lapses in currently accepted endoscope reprocessing protocols or to defective equipment. **(Level 1C+)**
- Endoscopes should undergo HLD as recommended by governmental agencies and all pertinent professional organizations for the reprocessing of GI endoscopes. **(Level 1C+)**
- Extensive training of staff involved in endoscopic reprocessing is mandatory for quality assurance and for effective infection control. **(Level 1C)**
- General infection control principles should be adhered to at the endoscopy unit. **(Level 1C+)**
- Transmission of infection from patients to endoscopy personnel can be avoided by application of standard precautions. (**Level 1C+**)

Definitions:

Grade of Recommendation	Clarity of Benefit	Methodologic Strength Supporting Evidence	Implications
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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate infection control during gastrointestinal (GI) endoscopy

POTENTIAL HARMS

The efficacy of manual cleaning and high-level disinfection (HLD) is personnel dependent. Reprocessing failure incidents typically arise as a result of human error, or because of equipment automatic endoscope reprocessor (AER) or product (HLD) failure.

QUALIFYING STATEMENTS

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- Further controlled clinical studies may be needed to clarify aspects of this guideline. This guideline may be revised as necessary to account for changes in technology, new data, or other aspects of clinical practice. This guideline is intended to be an educational device to provide information that may assist endoscopists in providing care to patients.
- This guideline is not a rule and should not be construed as establishing a legal standard of care or as encouraging, advocating, requiring, or discouraging any particular treatment. Clinical decisions in any particular case involve a complex analysis of the patient's condition and available courses of action. Therefore, clinical considerations may lead an endoscopist to take a course of action that varies from these guidelines.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Staying Healthy

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2008 May

GUIDELINE DEVELOPER(S)

American Society for Gastrointestinal Endoscopy - Medical Specialty Society

SOURCE(S) OF FUNDING

American Society for Gastrointestinal Endoscopy

GUIDELINE COMMITTEE

Standards of Practice Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Society for Gastrointestinal Endoscopy Web site.

Print copies: Available from the American Society for Gastrointestinal Endoscopy, 1520 Kensington Road, Suite 202, Oak Brook, IL 60523

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI Institute on September 15, 2008. The information was verified by the guideline developer on October 31, 2008.

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